

IN THE DRAWING(S):

The attached sheet(s) of drawing(s) includes changes to Figure Figures 2A and 14.  
This sheet replaces the original sheet showing Figure(s) Figures 2A and 14.

Attachment: Replacement Sheet.

REMARKS

This paper is filed in Response to the Office Action mailed February 3, 2010. Claims 1 to 20 are pending. Claims 5 to 20 stand withdrawn as being improper multiple dependent claims. Upon entry of this Response, and rejoinder of the claims, claims 1 to 20 are under consideration.

Supplemental Declaration and Power of Attorney

In compliance with 37 C.F.R. §1.67(a), a Supplemental Declaration and Power of Attorney executed by Christa Schleper and Frank Niehaus immediately follows this paper to correct the defective oath/declaration previously submitted having non-initialed and/or non-dated alterations. The Supplemental Declaration and Power of Attorney meets the requirements of 37 C.F.R. §1.63, and entry thereof is respectfully requested.

Regarding the Withdrawn Claims

Claims 5, 6, 8, 9, 11, 12, 14, and 17 to 20 have been amended to be linked to independent claim 1. Applicants respectfully request a rejoinder of withdrawn claims 5, 6, 8, 9, 11, 12, 14, and 17 to 20, all of which are linked to independent claim 1. Accordingly, upon entry of this Response, claims 7, 10, 13, and 15 to 16 are not multiply dependent claims and claims 1 to 20 are under consideration.

Regarding the Amendment to the Specification and Substitute Sequence Listing

The specification has been amended at page 14, line 21 to page 15, line 12, to recite the sequence identification numbers, SEQ ID NO:s, found in the sequence listing, and to correct a typographical error. The amendments were made to comply with Patent Office formalities and therefore, do not add new matter. Accordingly, entry of the amendments is respectfully requested.

Submitted herewith is a paper and computer readable copy of the Substitute Sequence Listing reciting the sequence identification numbers. An executed statement under 37 C.F.R. 1.825(a) and (b) that the hard copy and computer readable copies of the Substitute Sequence Listing are identical, and that the Substitute Sequence Listing does not add new matter, is also submitted herewith. Accordingly, no new matter has been added and entry of the Substitute Sequence Listing is respectfully requested.

Regarding the Claim Amendments

Claim 1 was amended to clarify: (1) coding sequences for structural proteins, a coding sequence for a site-specific integrase and a packaging signal from one of SSV1, SSV2 or pSSVx, wherein each of the structural protein coding sequences and the site-specific integrase coding sequence are operably linked to expression control sequences and the packaging signal, and (2) a sulfolobus promoter followed 3' by a restriction enzyme recognition site or a multiple cloning site for insertion of a gene of interest and the vector further comprises an optional 3' regulatory element. Claim 2 was amended to clarify that the coding sequences are from the SSV1, SSV2, pSSVx and pRN plasmids. Claims 5, 6, 8, 9, 11, 12, 14, and 17 to 20 have been amended to be linked to non-withdrawn independent claim 1. Accordingly, the amendments to the claims address informalities, and no new matter has been added, entry thereof is respectfully requested.

Regarding the Amendments to the Drawings

Figures 2A and 14 were amended to improve visualization because the prior figures were allegedly too dark and/or the writing was illegible. Thus, as the amendments to the drawings were made to address informalities, no new matter has been added and entry thereof is respectfully requested.

I. REJECTION UNDER 35 U.S.C. §101

The rejection of claims 1 to 4 under 35 U.S.C. §101 as allegedly directed to non-statutory subject matter is respectfully traversed. The ground for rejection is set forth in the Office Action, page 5.

Claims 1 to 4 recite expression vectors derived from the vectors of SSV1, SSV2 and SSVx, but are not the vectors of SSV1, SSV2 and SSVx that occur naturally in *Sulfolobus*. As the claims are not directed to naturally occurring products, the ground for rejection under 35 U.S.C. §101 is improper and must be withdrawn.

II. REJECTION UNDER 35 U.S.C. §102

The rejection of claims 1 to 4 under 35 U.S.C. §102 as allegedly anticipated by Stedman et al. (Genetics 152: 1397-1405 (August 1999)) is respectfully traversed. The grounds for the rejection is set forth in the Office Action at page 6.

Claims 1 to 4 are neither taught nor suggested by Stedman et al. (Genetics 152: 1397-1405 (August 1999)). In brief, Stedman et al. does not disclose genes encoding an essential

protein for Sulfolobus. Instead, Stedman et al. describes genes encoding proteins essential for the SSV1 virus, the virus being capable of infecting Sulfolobus, but distinct from Sulfolobus. Four SSV1 viral genes are described in Stedman et al. namely, VP1, VP2, VP3 and viral integrase (page 1400, Figure 1). However, no genes encoding an essential protein for Sulfolobus is taught or suggested by Stedman et al. Accordingly, a Stedman et al. (Genetics 152: 1397-1405 (August 1999)) fail to teach or suggest any of the claims 1 to 4, the rejection under 35 U.S.C. §102 is improper and must be withdrawn.

**CONCLUSION**


In summary, for the reasons set forth herein, Applicants maintain that the claims clearly and patentably define the invention, respectfully request that the Examiner reconsider the various grounds set forth in the Office Action, and respectfully request the allowance of the claims which are now pending.

If the Examiner would like to discuss any of the issues raised in the Office Action, Applicant's representative can be reached at (858)509-4065.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP



\_\_\_\_\_  
ROBERT M. BEDGOOD, PH.D.  
Reg. No. 43488  
Tel. No. 858.509.4065  
Fax No. 858 509.4010

Date: June 30, 2010  
12255 El Camino Real, Suite 300  
San Diego, CA 92130-4088  
(619) 234-5000